Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1 (currently amended) A method of transplanting hematopoietic cells comprising the steps of:

(a) obtaining hematopoietic cells, to be transplanted from a donor;

(b) providing said hematopoietic cells *ex vivo* with conditions for cell proliferation and, at the same time, with a transition metal chelator having an affinity for copper,

wherein said chelator [inhibits differentiation of said cells, thereby expanding said cells,] and said proliferation conditions result in (i) prolonged active cell proliferation; (ii) prolonged expansion of clonogenic cells (CFUc); and (iii) maintenance of undifferentiated cells in their undifferentiated state; and

(c) transplanting said cells to a patient.

Claim 2 (original): The method of claim 1, wherein said donor and said patient are a single individual.

Claim 3 (canceled)

Claim 4 (previously amended): The method of claim 1, wherein said hematopoietic cells are enriched for stem cells.

Claim 5 (previously amended): The method of claim 1, wherein said hematopoietic cells are enriched for progenitor cells.

Claim 6 (cancelled)

Claim 7. (previously amended): The method of claim 1, wherein said transition metal chelator is tetraethylenepentamine.

Claim 8 (previously amended) The method of claim 1, wherein providing the cells with conditions for cell proliferation includes providing the cells with nutrients and a cytokine or cytokines.

Claim 9 (previously amended) The method of claim 8, wherein said cytokine or cytokines is an early acting cytokine or cytokines.

Claim 10 (previously amended) The method of claim 9, wherein said early acting cytokine or cytokines is a stem cell factor.

Claim 11 (previously amended): The method of claim 8, wherein said cytokine or cytokines is a late acting cytokine or cytokines.

Claim 12 (previously amended): The method of claim 11, wherein said late acting cytokine or cytokines is a granulocyte/macrophage colony stimulating factor.

Claim 13 (previously amended): The method of claim 1, wherein said cells are derived from neonatal umbilical cord blood.

Claim 14 (cancelled)

Claim 15 (original): The method of claim 1, wherein said cells are selected from the group consisting of non-differentiated stem cells and committed progenitor cells.

Claims 16-36 (cancelled)

Claim 37 (currently amended): A method of adoptive immunotherapy comprising the steps of:

(a) obtaining progenitor hematopoietic cells from a patient;

(b) providing said hematopoietic cells *ex vivo* with conditions for cell proliferation and, at the same time, with a transition metal chelator having an affinity for copper, wherein said conditions for cell proliferation include providing said cell with nutrients and early acting cytokines, [thereby expanding said cells, while at the same time, inhibiting differentiation of said cells,] wherein said chelator and said conditions for cell proliferation result in (i) prolonged active cell proliferation; (ii) prolonged expansion of clonogenic cells (CFUc); and (iii) maintenance of undifferentiated cells in their undifferentiated state; and

(c) transplanting said cells to a patient.

Claim 38 (cancelled)

Claim 39 (previously amended): The method of claim 37, wherein said transition metal chelator is tetraethylenepentamine.

Claims 40-41 (cancelled)

Claim 42 (currently amended): The method of claim 37 ~~41~~, wherein said early acting cytokine or cytokines is a stem cell factor.

Claim 43 (previously amended): The method of claim 37, wherein said conditions for proliferation further comprise providing the cells with a late acting cytokine or cytokines.

Claim 44 (previously amended): The method of claim 43, wherein said late acting cytokine or cytokines is a granulocyte/macrophage colony stimulating factor.

Claim 45 (previously amended): The method of claim 37, wherein said cells are derived from neonatal umbilical cord blood.

Claim 46 (cancelled)

Claim 47 (original): The method of claim 37, wherein said cells are selected from the group consisting of non-differentiated stem cells and committed progenitor cells.

Claim 48 (previously added): The method of claim 1, wherein said hematopoietic cells are $CD34^+$ cells.

Claim 49 (previously added): The method of claim 37, wherein said hematopoietic cells are $CD34^+$ cells.

Claim 50 (previously added): The method of claim 1, wherein said hematopoietic cells are selected from the group consisting of early hematopoietic cells and hematopoietic progenitor cells.

Claim 51 (previously added): The method of claim 37, wherein said hematopoietic cells are selected from the group consisting of early hematopoietic cells and hematopoietic progenitor cells.

Claim 52 (previously added): The method of claim 1, wherein said transition metal chelator concentration is about 0.1 μM to about 100 mM.

Claim 53 (previously added): The method of claim 52, wherein said transition metal chelator concentration is about 4 μM to about 50 mM.

Claim 54 (previously added): The method of claim 53, wherein said transition metal chelator concentration is about 5 μM to about 40 mM.

Claim 55 (previously added): The method of claim 37, wherein said transition metal chelator concentration is about 0.1 μM to about 100 mM.

Claim 56 (previously added): The method of claim 55, wherein said transition metal chelator concentration is about 4 μM to about 50 mM.

Claim 57 (previously added): The method of claim 56, wherein said transition metal chelator concentration is about 5 μM to about 40 mM.